Washington State Department of Transportation

9/11/2023

Monitoring Report

Site Details

Site ID: 990400 Road Name: US 101 Mile Post: 162.60

Stream: Steamboat Cr Tributory to: Pacific Ocean

Monitoring Inspection Details:

Inspection Type: Post-construction Inspection Date: 9/7/2022

Inspector(s): Ryan Barkie,Tammy Schmidt

Post Construction Information

Structure conforms to permits and plans? Yes Structure Type: Bridge

Structure comments:

Alignment/configuration conforms to permits and plans? Yes

Alignment comments:

Channel is currently along LB toe upstream and under bridge with large, flat gravel bench on opposite bank.

Dimension conforms to permits and plans? Yes

Dimension comments:

Bridge/Culvert Span (ft): 208.00 Structure Length (ft) Structure Rise (ft):

Streambed Slope (%): 0.52 Culvert shape: Not Applicable Culvert Material: Not Applicable

Culvert Shape Material Comment

Streambed channel conforms to permits and plans?

Streambed Material: Yes Streambed Shape/Flow: Yes Streambed Slope: Yes

Post-Construction stream channel Comments:

Bed slope 0.42% on plans. Revised stream alignment to LB between Year 1 and Year 2 of construction. Significant amount of substrate mobilized downstream after Year 1 and formed a gravel bar near the DS tie-in. Material replenished from US source. Designed 60% SBM, 20% 8" cobbles, 20% 10" cobbles.

Do other Design Features (LWM, coarse bands, barbs, preformed pools, etc) conform to permits and plans? Yes

Additional Details:

Wood layout revised during construction. LWM installed in Year 1 mobilized downstream. LWM installed in Year 2 is within the low flow channel (4 single logs with root wads - unanchored).

Monitoring Parameters (all intervals):

Streambed Material

Has the Site experienced a bankfull event? No

Is there streambed material throughout the Structure? N/A

Is there streambed material throughout the Design Channel? Yes

Freeboard at outlet (ft) at inlet (ft)

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Compare the streambed material throughout the structure and design channel to the common condition: Similar

Streambed Material Comments:

Upstream has excellent source of streambed material and the ability to recruit it.

Channel Flow / Shape

Is there unusual subsurface flow compared to the common condition of the reach? No

Does a low-flow channel exist through the entire length of the structure and design channel: Yes

The depth of the channel throughout the structure and the design channel compared to the common condition of the reach is: Similar

The channel shape throughout the structure and the design channel compared to the common condition of the reach is: Similar

Is the channel shape consistent with the design expectations? Yes

If No or Undetermined, explain:

Describe the channel path within the structure and the design channel: Meandering

Does the channel contact the structure wall at any location? N/A

If yes, the percentage of channel length in contact is: N/A

Also, if yes, contact is: N/A

Is there a measurable BFW inside the structure? N/A

Bankfull Width (BFW) of the channel within the structure: (ft)

BFW inside the structure compared to the design channel: N/A

BFW inside the structure compared to the common condition: N/A

BFW of the design channel compared to the common condition is: Similar

There is a defined channel: Through the entire project.

Channel Additional comments:

BFW in design channel 7.1 m (23.3'); BFW US CC 8.7 m (28.5'). Bank sloughing on LB downstream of bridge puts a couple of trees at risk. Erosion control blankets still in place on LB slopes upstream and under bridge.

Streambed Slope

Streambed Slope (%) Upstream of the Structure: 0.58 Throughout the structure:

Downstream of the structure: 0.56 Overall project: 0.58

Describe streambed slope throughout the project compared to the common condition of the reach: Similar

Streambed Slope Compared to Reach Comments:

Streambed Slope Comments:

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DS CC slope 1.56% (reflects regraded material from project limits); US CC slope 0.17%.

Other Details

Are there any Channel-Spanning hydraulic drops within the structure or the design channel greater than 0.50 feet? No

If Yes, provide comments, including descriptions of any headcutting or aggrading:

Do other Design Features (LWM, coarse bands, barbs, preformed pools, etc) function as intended? Yes

Features Comments:

High risk of wood mobilizing downstream. Large log jam at the mouth. Additional wood to be installed in summer 2023.

Photos taken during inspection? Yes

Final Determination

Is the structure Fish Passable? Yes

Risks noted to stream function, refer to category: Other Details

Actions determined by Monitoring: No Action Needed

Inspection Action Comments:

Additional Comments:

Expect channel to migrate to RB over winter.

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Attachments:

7001_NOJurisMultipleCulvert.pdf
Hydraulic Project Approval.pdf
US_101_Steamboat_Creek__FHD_Update_June2018_Reviewed_Final_withAppendices.pdf
US101 Steamboat LWM Augmentation Concept v3.pdf